Remarks

Claims 1, 13, 14, 39, 58, 90, 92, and 94 have been amended. No new matter has been added through these amendments. Amendments to claims 1, 13, 14, 39, 90, 92, and 94 are supported by at least pages 12-27 of the originally filed specification. Claim 58 has been amended to address a matter of a clerical nature. Reconsideration of the application in view of the amendments and the remarks to follow is requested.

Claims 1-26, 36-61, and 89-103 stand rejected under 35 U.S.C. §103(a) as being obvious in view of Webster et al (US 5,057,634). Applicant requests reconsideration of this rejection.

Claim 1 has been amended and as amended recites a process for producing CF_3CFHCF_3 that includes contacting a C-3 reactant comprising one or more of perhydrogenated or partially halogenated C-3 hydrocarbons with Cl_2 and HF in the presence of a first catalyst at a first temperature to form a C-3 product comprising a C-3 perhalogenated compound. Amended claim 1 further recites contacting the C-3 product with HF in the presence of a second catalyst at a second temperature to form a $CF_3CCl_2CF_3$ product, the $CF_3CCl_2CF_3$ product comprising a mole ratio of $CF_3CCl_2CF_3$ to $CF_3CFClCClF_2$ greater than 2:1. Amended claim 1 also recites contacting the $CF_3CCl_2CF_3$ product with HF in the presence of a third catalyst at a third temperature to form $CF_3CClFCF_3$. Amended claim 1 then recites contacting the $CF_3CClFCF_3$ with H_2 in the presence of a fourth catalyst at a fourth temperature to produce CF_3CFHCF_3.

The Examiner has rejected claim 1 as obvious in view of only the Webster reference because Webster's teachings regarding the production of hexafluoropropylene ($CF_3CF=CF_2$), not CF_3CFHCF_3 as specifically recited, allegedly render claim 1 obvious.

Applicant believes amended claim 1 to be allowable over Webster, and specifically believes that the Webster reference cannot form the basis of a prima facie case of obviousness rendering amended claim 1 unpatentable. The Examiner is respectfully referred to MPEP §2142, which recites, in part:

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ.2d 1438 (Fed. Cir. 1991). For at least the reasons that Webster does not teach or suggest all of the limitations of claim 1, Webster cannot form the basis of a prima facie case of obviousness.

Taken as a whole, Webster teaches methods of producing hexafluoropropylene, not producing CF_3CFHCF_3 form a product comprising a mole ratio of $CF_3CCl_2CF_3$ to $CF_3CFClCClF_2$ greater than 2:1 as recited in amended claim 1. On numerous occasions Webster refers to impurities such as C_3F_7H being found during the production of hexafluoropropylene. Keeping in mind that C_3F_7H has at least two isomers, CF_3CFHCF_3 and $CF_3CF_2CHF_2$, Webster only refers to CF_3CFHCF_3 in a single instance as an impurity recorded during the production of hexafluoropropylene (see, e.g. Table VI, the results of examples 43-45), but at all times consistently refers to these compounds as undesirable and suitable for recycling, not production. Because

Webster is not directed at producing CF_3CFHCF_3 as recited in amended claim 1, it does not address the problems associated with the production of CF_3CFHCF_3.

Amended claim 1 specifically recites contacting the C-3 product with HF in the presence of a second catalyst at a second temperature to form a $CF_3CClFCF_3$ product, the $CF_3CCl_2CF_3$ product comprising a mole ratio of $CF_3CCl_2CF_3$ to $CF_3CFClCClF_2$ greater than 2:1. Amended claim 1 goes on to recite contacting the $CF_3CCl_2CF_3$ product with HF in the presence of a third catalyst at a third temperature to form $CF_3CClFCF_3$. Understandably, Webster does not teach or suggest these limitations. Because the final step described by Webster involves the elimination of a halogen from a C-3 reactant to form the unsaturated hexafluoropropylene, the isomeric purity of the C-3 reactant is not a concern. Amended claim 1 on the other hand is directed at the production of a specific isomer, CF_3CHFCF_3 having the hydrogen on the geminal carbon, not the terminal carbon (i.e., $CF_3CF_2CHF_2$). The isomeric purity of intermediates, specifically the $CF_3CCl_2CF_3$ product having a mole ratio of $CF_3CCl_2CF_3$ to $CF_3CFClCClF_2$ greater than 2:1, in at least one embodiment, facilitates the production of the CF_3CHFCF_3 isomer. Because Webster does not teach or suggest all the limitations of amended claim 1, Webster cannot form the basis of a prima facie obviousness rejection and amended claim 1 is allowable in view of Webster.

Claims 2-26 and 89-97 depend from amended claim 1 and are allowable for at least the reasons discussed above regarding amended claim 1 and for additional reasons. For example, claim 17 recites during the contacting of the $CF_3CClFCF_3$ with H_2, contacting the fourth catalyst with water. The cited references do not teach or suggest these limitations. Claims 18 and 19 depend from claim 17 and are allowable for at least the reasons discussed above regarding claim 17.

Amended claim 39 recites a process for producing CF_3CFHCF_3 that includes contacting a C-3 reactant comprising one or more of perhydrogenated and partially halogenated C-3 hydrocarbons with Cl_2 and HF in the presence of a first catalyst at a first temperature to form a C-3 product comprising a mole ratio of $CF_3CCl_2CF_3$ to $CF_3CFClCClF_2$ greater than 2:1. Amended claim 39 further recites contacting the C-3 product with HF in the presence of a second catalyst at a second temperature to form $CF_3CClFCF_3$ and contacting the $CF_3CClFCF_3$ with H_2 in the presence of a third catalyst at a third temperature to form CF_3CFHCF_3. Amended claim 39 is allowable in view of Webster, as stated above, for at least the reasons amended claim 39 recites a C-3 product comprising a mole ratio of $CF_3CCl_2CF_3$ to $CF_3CFClCClF_2$ greater than 2:1 and contacting the C-3 product with HF in the presence of a second catalyst at a second temperature to form $CF_3CClFCF_3$. As discussed above, Webster does not teach or suggest these features.

Claims 40-61 and 98-103 depend from amended claim 39 and are allowable for at least the reasons discussed above regarding amended claim 39 and for additional reasons. For example, claim 53 recites during the contacting of the $CF_3CClFCF_3$ with the H_2, contacting the third catalyst with water. The cited references do not teach or suggest these limitations. Claims 54 and 55 depend from claim 53 and are allowable for at least the reasons discussed above regarding claim 53.

Further, Applicant herewith submits a duplicate copy of the Form PTO-1449 filed on April 30, 2004 on which the Examiner has initialed 4 of the 5 cited references. Applicant requests that the Examiner initial the last reference.

This application is now believed to be in immediate condition for allowance, and action to that end is respectfully requested. If the Examiner's next anticipated action is to be anything other than a Notice of Allowance, the undersigned respectfully requests a telephone interview prior to issuance of any such subsequent action.

Respectfully submitted,

Dated: 11/4/04

By: _____
Robert C. Hyta
Reg. No. 46,791

-END OF DOCUMENT-

Form PTO-1449	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTY. DOCKET NO. PCI-019	SERIAL NO. 09/966,138
LIST OF ART CITED BY APPLICANT (Use several sheets if necessary)		APPLICANT Yoichi Tikubo, et al.	
		FILING DATE 9/28/2001	GROUP 1621

U.S. PATENT DOCUMENTS

*Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
	AA	2,494,064	1/10/1950	Simons et al. duplicate			
	AB						
	AC						
	AD						
	AE						
	AF						
	AG						
	AH						

FOREIGN PATENT DOCUMENTS

		Document Number	Date	Country	Class	Subclass	Translation Yes	Translation No
	AM	902,590	8/1/1962	UK				
	AN	EP 0 559 909 B1	6/18/1997	EPO				
	AO	99/51553	10/14/1999	PCT				
	AP							
	AQ							

OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)

	AR		"Technology of Fluoropolymers" Drobny; CRC Press; Vols. 78-79; pps. 8-11, and 18-19.
	AS		
	AT		

EXAMINER [signature] DATE CONSIDERED 8/3/04

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.